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**Patton**

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[54] **METHOD FOR IRRADIATING PATTERNS IN OPTICAL WAVEGUIDES CONTAINING RADIATION SENSITIVE CONSTITUENTS**

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[ \* ] **Notice:** This patent is subject to a terminal disclaimer.

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[58] **Field of Search** ..... **430/321, 966**

[56] **References Cited**

**U.S. PATENT DOCUMENTS**

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[57] **ABSTRACT**

A method and apparatus for establishing predetermined patterns in a selected region of an optical waveguide. A positioning device holds the waveguide proximate a radiation source. The radiation source defines a radiation pattern corresponding to the desired patterns. The resulting radiation patterns induce a loss in the light transmission capability in a portion of the waveguide that contains a radiation sensitive constituent and that the radiation penetrates. Thereafter the optical waveguide ages to reach an equilibrium state. Thereafter, the irradiated areas form the predetermined patterns in the optical waveguide. The patterns may take the form of Bragg gratings in the waveguide.

**20 Claims, 2 Drawing Sheets**